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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,570	08/22/2003	Shori Mokuo	33082M170	3867

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SMITH, GAMBRELL & RUSSELL
1130 CONNECTICUT AVENUE, N.W., SUITE 1130
WASHINGTON, DC 20036

EXAMINER	
PATEL, RITA RAMESH	

ART UNIT	PAPER NUMBER
1792	

MAIL DATE	DELIVERY MODE
12/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/645,570	MOKUO, SHORI	
	Examiner	Art Unit	
	Rita R. Patel	1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3,5-15 and 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,3,5-15 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/24/07*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/24/07 has been entered.

Response to Applicant's Arguments / Amendments

This Office Action is responsive to the amendment filed on 6/4/07. Claims 4, 16, and 17 have been canceled. Thus claims 2, 3, 5-15, and 18 are pending. Claims 2, 5, and 6 have been amended. Applicant's arguments have been considered, but are not persuasive. Therefore, the instant claims 2, 3, 5-15, and 18 are rejected for the reasons of record.

In response to Applicant's remarks filed 6/4/07, Applicant indicates that by the amendment of claim 2 by incorporation of former claim 4, the Kolbusz reference fails to read on claim 2. More specifically Applicant argues that Kolbusz fails for form a flow passage within the stored water in the upper portion 15 of the tank since it is a space for storing water and the total volume of Kolbusz is inevitably large. However, Kolbusz fully

teaches this feature since Kolbusz teaches a heat exchanger with a plurality of ports 26 connecting an upper and lower portions of the tank; the ports 26 provide flow between the upper and lower portions of the tank since they directly connect flowing liquid therethrough. It is not apparent how Applicant's arguments that the Kolbusz reference is "inevitably large" is related to its ability to form a flow passage with its apparatus. Evidence by applicant must be reasonably commensurate in scope with the claimed invention. See, e.g., In re Kulling, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (Fed. Cir. 1990); In re Grasselli, 713 F.2d 731, 743, 218 USPQ 769, 777 (Fed. Cir. 1983). Applicant's argument's are not commensurate in scope and thus, are not persuasive.

Secondly, Applicant submits the inner cylinder of Kolbusz does not read on Applicant's claims because if the outer wall 21 of Kolbusz reads on a cylindrical straightening vane, then the inner wall structure 20 should read on an inner cylinder since Applicant recites that the processing liquid is stored outside of the inner cylinder and thus the claimed tank does not have processing liquid disposed therein. However, it is not positively recited in Applicant's claims that there cannot be liquid disposed in said tank. Applicant merely recites that processing liquid descends along the outside of the straightening vane. The Examiner maintains their position that liquid does exist outside the straightening vane of Kolbusz, and thus reads on Applicants invention regardless of Kolbusz's teaching of having liquid within the tank as well.

Finally Applicant states that "Kolbusz does not teach or suggest a tank comprising a cylindrical straightening vane between an inner cylinder and a side wall of the tank and a baffle plate, wherein the cylindrical straightening vane and the baffle

plate form a flow passage for the processing liquid within the space for storing the processing liquid". However as indicated in the former Office Action Kolbusz teaches a cylinder 17, a straightening vane 23 which is formed between the cylinder 17 and an outer right-side wall of the tank 11, wherein the vane 23 and a baffle plate 25 form a flow passage by a plurality of pipes 26 for processing liquid between the upper and lower tank portions of Kolbusz.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2, 3, 5-15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolbusz et al. herein referred to as "Kolbusz" (US Patent No. 6,427,638).

Kolbusz illustrates in Figures 1-4 a water heater apparatus 10 generally comprising a tank 11 having a plurality of heat transferring chambers 17, 18 and ducts 22-24 being conventionally disposed inside said tank. The heat transferring chambers 17, 18 include an inner chamber 17, and outer chamber 18 being separated from the inner chamber with an inner wall structure 20. Additionally, the upper portion 15 is separated from the lower portion 16 with a partition 25 having a plurality of ports 26 disposed therethrough (col. 3, lines 45-55). Partition 25 of Kolbusz reads on applicant's

claim for a baffle plate; "Tubes pass through this plate for support. Provides a blocked path for the shell-side medium, forcing the medium across the tubes for better heat exchanger performance." ("baffle plate". Heat Exchanger (2005). Retrieved 10 May 2006, from http://www.heatexchangertypes.com/glossary.htm). Chamber-interconnecting duct 23 is disposed through a top of the inner wall structure 20 and extends along an outer wall 21 of the outer chamber 18 and through a bottom of the outer wall 21 and into the outer chamber 18 (col. 3, lines 60-64). In Figure 1 of Kolbusz, the coiled pipes 27-30 are illustratively arranged parallel to one another. It is the intended use of coiled pipes 27-30 to be used for flowing either a cooling heat medium or a heating heat medium inside; the pipes are structurally capable of flowing either therein. It is well settled that the intended use of a claimed apparatus is not germane to the issue of the patentability of the claimed structure. If the prior art structure is capable of performing the claimed use then it meets the claim. *In re Casey*, 152 USPQ 235, 238 (CCPA 1967); *In re Otto*, 136 USPA 459 (CPA 1963).

Kolbusz's tank 11 and the outer wall of the interconnecting duct 23 reads on applicant's processing tank; inner chamber 17 reads on applicant's inner cylinder; and outer wall 21 of chamber-interconnecting duct reads on applicant's claims for a straightening vane disposed between the outer tank and inner cylinder

Kolbusz's disclosure of outer wall 21 reads on applicant's claim for a *cylindrical* straightening vane. Although not explicitly stated to be cylindrical Kolbusz teaches that "it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of

operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art" (col. 4, lines 53-58), hence, cylindrical shape would have been obvious, as it achieves the same functions for providing liquid flow therein. Moreover, as seen by Figure 4 of Kolbusz, the walls of he invention are cylindrically formed around each other in a concentric form, thus it can be envisaged that wall 21 is similarly cylindrical in nature as shown by the aerial view of the concentric outer tank wall 11.

Also, flow of pipes 27-30 flow by and large horizontally, as the processing liquid flows through the tank mostly vertically.

Outlet ports 26 as shown in Figure 3 of Kolbusz, draw the processing fluid out from below partition 25 out of a region outer of the chamber-interconnecting duct 23 without mixing fluid transported in the ports with the processing liquid above the partition 25, thus reading on applicant's claim for an outlet pipe for drawing the processing liquid below the baffle plate out of a region inner or outer of the straightening vane without mixing the processing liquid below the baffle plate with the processing liquid upper of the baffle plate.

Chamber-interconnecting duct 23 of Kolbusz is fixed to partition 25 by way of tank 25 walls. Moreover, rearrangement of parts was held to have been obvious. *In re Japikse* 86 USPQ 10 (CCPA 1950). Thus providing reading on Kolbusz scope for said invention, however also providing obvious variants. This reads on applicant's claim wherein the baffle plate is fixed to the baffle plate. Kolbusz supports that optimal dimensional relationships for the parts of said invention are obvious variants that one of ordinary skill in the art at the time of the invention would find readily apparent (col. 4,

lines 53-58). Hence, a tilted baffle plate is deemed to be an obvious variant, as a tilted baffle maintains to achieve the same functions as that of a non-tilted baffle plate.

As seen in Figure 3, coiled pipes 27-30 are shown traversing in a helical shaped in region outer of the chamber-interconnecting duct 23. It would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the helical coils taught by Kolbusz to traverse within the region of the inner-connecting duct 23 to achieve increased heating/cooling functions of the processing unit. Rearrangement of parts was held to have been obvious. *In re Japikse* 86 USPQ 10 (CCPA 1950).

It would have been obvious to one of ordinary skill in the art at the time of the invention to compose the liquid contact surfaces of the processing liquid tank and the pipe of a chemical liquid resistant resin, as claimed by applicant, to prevent chemical erosion or unwanted chemical reactions (col. 4, lines 53-58); Kolbusz finds this feature to be readily apparent by one of ordinary skill in the art at the time of the invention.

Furthermore, in Figure 2, Kolbusz shows the water heater apparatus with a tank disposed therein, connectively attached to another unit by water outlet pipe 30 and exhaust pipe 39; these two apparatuses form a processing unit for processing, in which water inlet pipe 29 is attached thereupon. It would have been obvious to one of ordinary skill in the art at the time of the invention to adjoin said water heater apparatus to a processing unit to achieve intended processing for the inlet or outlet stream of the water heater. Processing functions are commonly known in the art for providing, but not limited to, further heating, cooling, supplying, routing, partitioning, filtration, remediation and/or mixing means.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita R. Patel whose telephone number is (571) 272-8701. The examiner can normally be reached on M-F: 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

rrp

MICHAEL BARR
SUPERVISORY PATENT EXAMINER